

REMARKS

Claims 1-21, all the claims pending in the application, stand rejected on prior art grounds. Claims 1, 8, and 15 are amended herein. Applicants respectfully traverse the rejections based on the following discussion.

I. The Prior Art Rejections

Claims 1-21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Johansson, et al. (U.S. Publication No. 2002/0044549 A1), hereinafter referred to as "Johansson" in view of Salonidis, et al. (U.S. Patent No. 6,865,371 B2), hereinafter referred to as "Salonidis", and in further view of Admitted Prior Art (APA), Minamisawa (U.S. Patent No. 6,026,303). Applicants respectfully traverse these rejections based on the following discussion.

Johansson teaches two logically separated scatternets, the maximum connectivity scatternet (MCS) and the traffic scatternet (TS). An MCS maintains information about all nodes in the scatternet in order to facilitate a quick path establishment when a destination node is searched for. The MCS is maintained autonomously as new nodes arrive to the scatternet and other nodes leave the scatternet. A TS is established on a per session basis, primarily between two nodes in the scatternet. The TS is designed to achieve the best possible performance for the data flow between the involved nodes. When supported, in addition to establishing dedicated TS piconets and/or dedicated TS links, this may involve switching to the Bluetooth high speed mode on TS links. An overall scatternet may consist of one MCS and several TSs.

Salonidis teaches a method for connecting two or more devices via a wireless communication channel is provided. In one embodiment, a method of connecting a first device

to a second device includes the steps of arbitrarily assigning one of two possible states to each device, wherein in a first state, a device seeks to establish a connection with another device, and in a second state, the device renders itself available for connection with the other device; and alternating a present state of each device between the first state and the second state in accordance with a predefined probability distribution until either a predetermined timeout period has expired or a connection between the devices has been established, the length of time that each device remains in the first and second states being controlled by the probability distribution. In a second embodiment, a method of forming a scatternet between a plurality of devices or nodes in an ad hoc wireless communication network is provided.

Minamisawa teaches a method of configuring an ad hoc network system including a plurality of wireless terminals, at least one of a plurality of wireless terminals of a network is selected as a current temporary parent wireless terminal, all of the plurality of wireless terminals other than the current temporary parent wireless terminal being set as child wireless terminals. Subsequently, a set of state determination data are collected from each of the child wireless terminals by the current temporary parent wireless terminal. The state determination data includes at least one of a wireless terminal state data of each of the child wireless terminals and a communication state data with each of the child wireless terminals. Then, it is determined whether the collecting operation is executed K cycles (K is a positive integer).

However, the claimed invention, as provided in amended independent claims 1, 8, and 15 contain features, which are patentably distinguishable from the prior art references of record. Specifically, claims 1, 8, and 15 recite, in part, "...assigning master or slave status to each node and connecting slave nodes to master nodes to form subgroups based on defined optimization

parameters comprising an amount of neighbor nodes of each said node, a power consumption of said node, and maintenance overhead associated with said node....” These features are further described on page 6, lines 22-27 of the Applicants’ specification, as originally filed. Such features enable the claimed invention to more accurately assign master or slave status to a particular node compared with the prior art because such features specifically contribute to the optimization of the clustering of a master-slave ad-hoc wireless network, which further allow for an optimized interconnectivity of the nodes in the communications network.

The APA, and in particular Minamisawa may refer to power consumption, but it does not refer to the number (or amount) of neighbor nodes or maintenance overhead associated with the node, but rather it merely discuss communication error rates. Here, communication error rates is non-analogous to the number (or amount) of neighbor nodes, because the former refers to an actual rate while the latter refers to a specific number of nodes in communication with the master nodes. Thus, the Applicants’ invention is related to parameters comprising an amount of neighbor nodes of each node and a power consumption of the node and maintenance overhead associated with the node. Accordingly, the APA (Minamisawa) and all of the prior art references are absent features defined by the Applicants’ amended claims 1, 8, and 15.

Furthermore, as stipulated in Graham v. John Deere Co., 383 U.S. 1, 86 S.Ct. 684, 15 L.Ed.2d 545, U.S.P.Q. 459 (1966), which provides the correct factual inquiries which establish a background for determining obviousness under 35 U.S.C. §103(a), one of these factual inquiries which determine obviousness is determining what the level is of one of ordinary skill in the art. Here, the level of one of ordinary skill in the art is that of an engineer who works in network architecture design and development. Accordingly, such an individual would not find the

claimed invention obvious in light of the combination of Johansson, Salonidis, and APA (Minamisawa) given the requirement of having to separate individually complete technologies in order to try and piece together a new device/method as provided in the application, thereby indicating that the claimed invention is unobvious in light of the collective prior art.

Insofar as references may be combined to teach a particular invention, and the proposed combination of Johansson, Salonidis, and APA (Minamisawa) case law establishes that, before any prior-art references may be validly combined for use in a prior-art 35 U.S.C. § 103(a) rejection, the individual references themselves or corresponding prior art must suggest that they be combined. The Office Action fails to indicate where in either Johansson or Salonidis or APA (Minamisawa) or in any other prior art it is taught or suggested that such a motivation to combine (as suggested by the Office Action) exists and how such a combination could logically occur. Absent such a showing, the rejection is improper.

For example, in In re Sernaker, 217 USPQ 1, 6 (C.A.F.C. 1983), the court stated: “[P]rior art references in combination do not make an invention obvious unless something in the prior art references would suggest the advantage to be derived from combining their teachings.” Furthermore, the court in Uniroyal, Inc. v. Rudkin-Wiley Corp., 5 USPQ 2d 1434 (C.A.F.C. 1988), stated, “[w]here prior-art references require selective combination by the court to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the invention itself. . . . Something in the prior art must suggest the desirability and thus the obviousness of making the combination.”

In the present application, the reason given to support the proposed combination is improper, and is not sufficient to selectively and gratuitously substitute parts of one reference for

a part of another reference in order to try to meet, but failing nonetheless, the Applicants' novel claimed invention. Furthermore, the claimed invention, as amended, meets the above-cited tests for obviousness by including embodiments such as assigning master or slave status to each node and connecting slave nodes to master nodes to form subgroups based on defined optimization parameters comprising an amount of neighbor nodes of each said node, a power consumption of said node, and maintenance overhead associated with the node. As such, all of the claims of this application are, therefore, clearly in condition for allowance, and it is respectfully requested that the Examiner pass these claims to allowance and issue.

As declared by the Federal Circuit:

In proceedings before the U.S. Patent and Trademark Office, the Examiner bears the burden of establishing a prima facie case of obviousness based upon the prior art. The Examiner can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. In re Fritch, 23 USPQ 2d 1780, 1783 (Fed. Cir. 1992) citing In re Fine, 5 USPQ 2d 1596, 1598 (Fed. Cir. 1988).

Here, the Examiner has not met the burden of establishing a prima facie case of obviousness. It is clear that, not only does Johansson and Salonidis fail to disclose all of the elements (as admitted on page 4 of the Office Action) of the claims of the present invention, but also, if combined with APA (Minamisawa) fails to disclose these elements as well. The unique elements of the claimed invention are clearly an advance over the prior art.

The Federal Circuit also went on to state:

The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. . . . Here the Examiner relied upon hindsight to arrive at the determination of obviousness. It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This

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court has previously stated that one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. Fritch at 1784-85, citing In re Gordon, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

Here, there is no suggestion that Johansson, alone or in combination with Salonidis and APA (Minamisawa) teaches a method, system, and computer program product containing all of the limitations of the claimed invention. Consequently, there is absent the "suggestion" or "objective teaching" that would have to be made before there could be established the legally requisite "prima facie case of obviousness."

In view of the foregoing, the Applicants respectfully submit that it would be illogical and unreasonable to assume one of ordinary skill in the art would be motivated to combine all of the cited prior art references, and in particular, Johansson and Salonidis and APA (Minamisawa) together to teach the features defined by amended independent claims 1, 8, and 15 and as such, claims 1, 8, and 15 are patentable over Johansson alone or in combination with Salonidis and APA (Minamisawa). Furthermore, dependent claims 2-7, 9-14, and 16-20 are similarly patentable over Johansson alone or in combination with Salonidis and APA (Minamisawa), not only by virtue of their dependency from patentable independent claims, respectively, but also by virtue of the additional features of the invention they define. Thus, the Applicants respectfully request that these rejections be reconsidered and withdrawn.

Moreover, the Applicants note that all claims are properly supported in the specification and accompanying drawings. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections.

III. Formal Matters and Conclusion

With respect to the rejections to the claims, the claims have been amended, above, to overcome these rejections. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections to the claims.

In view of the foregoing, Applicants submit that claims 1-21, all the claims presently pending in the application, are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary. Please charge any deficiencies and credit any overpayments to Attorney's Deposit Account Number 09-0441.

Respectfully submitted,

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